

- For a joint collaborative DFG-funded project in **infection immunology** we are hiring -



FACULTY OF MEDICINE
UNIVERSITY OF DUISBURG-ESSEN

Institute of Medical Microbiology and Hospital Hygiene,
Heinrich Heine University Düsseldorf, Germany

PhD student (m/f/d)

E13 TV-L 65%

The lab of Prof. Stefanie Scheu conducts research in infection immunity, autoimmunity, and CNS inflammation with a specific focus on plasmacytoid dendritic cells and type I IFNs using mouse models.

Research Group 'Immunology Sepsis/Trauma'
Department of Trauma Surgery,
University Hospital Essen, Germany

Postdoc, PhD (m/f/d)

E13 TV-L 100%

The lab of Prof. Stefanie Flohé investigates cellular and molecular mechanisms underlying the enhanced risk for opportunistic infections after severe injury and during sepsis using animal models and samples from patients.

Sepsis is a systemic bacterial infection that causes profound immune dysregulation. The consequences are the development of life-threatening recurrent secondary infections and organ failure. Previous work of the labs has shown that an altered differentiation of conventional dendritic cells (cDCs) in the bone marrow toward a "dysregulated" phenotype contributes to the enhanced susceptibility to secondary infections during sepsis due to so far unknown mechanisms.

The aim of the project is to decipher the impact of plasmacytoid dendritic cells (pDCs) on the differentiation of cDCs in the bone marrow during polymicrobial sepsis. The project is based on a clinically relevant sepsis model and on material from sepsis patients.

The **PhD student** will focus on the molecular mechanisms underlying the activation of pDCs and their migration into the bone marrow during sepsis. Techniques used: multicolor-flow FACS, transcriptome profiling with bioinformatic analyses, confocal microscopy, protein biochemistry and various immunological assays.

The **postdoc** will investigate the cellular and molecular mechanisms involved in the communication of pDCs and progenitor cells of cDCs in the bone marrow and will identify their human counterparts. Applied methods: multicolor-FACS, isolation and culture of primary cells, protein quantification, transcriptomics, imaging.

Your profile:

- Very good Diploma/Master (for the PhD position) or PhD (for the postdoc position) degree in biology or related life sciences
- High degree of motivation & enthusiasm in investigating pathomechanisms of infectious diseases & DCs
- Deep knowledge in cellular & molecular immunology, experience in multicolor FACS, and cell culture
- Experience in preparing murine & human primary immune cells & bioinformatic analyses (multi-Omics)
- Very good skills in independent working, organization, communication, and teamwork
- Excellent English language skills

Benefits:

We are an international team of highly motivated basic research scientists, graduate and undergraduate students. Our labs are well networked within in the national and international scientific community and within the biomedical research groups of the Heinrich Heine University/University Hospital Düsseldorf and the University Duisburg-Essen/University Hospital Essen.

Connected to the PhD position is a membership in the Interdisciplinary Graduate and Research Academy Düsseldorf (iGRAD), a cross-curricular institution that offers a structured educational program including workshops on key professional qualifications, counselling, and targeted support for the qualification of young researchers within the faculty. The Postdoc position will be associated to the Research Training Group RTG1949 of the University Hospital Essen.

Application details:

The positions may be filled from 1st November 2021 or later. Interested candidates should send their application including motivation letter, CV, references, and copies of relevant school certificates and all university degrees as **one pdf file only** to stefanie.scheu@uni-duesseldorf.de (for **PhD student** position) or stefanie.flohe@uk-essen.de (for **postdoc** position).

Only applications that fulfill all the formal requirements will be considered!

The pay grade classification depends on the personal and collective legal requirements. The salary is in accordance with the German public service salary scale. The position is third-party funded for the duration of 36 months. The Universities Düsseldorf and Duisburg-Essen are equal opportunity employers. Female scientists are particularly encouraged to apply. Disabled applicants will be preferentially considered in case of equivalent qualification.